

Montana Board of Oil and Gas Conservation Environmental Assessment

Operator: XTO Energy, Inc.
Well Name/Number: Ruffatto 13X-24B
Location: NW SW Section 24 T26N R52E
County: Richland, MT; Field (or Wildcat) Wildcat

Air Quality

(possible concerns)

Long drilling time: No, 25-35 days drilling time.

Unusually deep drilling (high horsepower rig): Triple derrick rig 1000 HP to drill a single lateral horizontal Bakken Formation well, 18,764' MD/8,930' TVD.

Possible H₂S gas production: Slight possibility of H₂S gas production (Mississippian Formations).

In/near Class I air quality area: Closest, class I air quality area in the area of review is the Fort Peck Indian Reservation about 5 to 6 miles to the northwest from this drilling location.

Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under rule 75-2-211.

Mitigation:

☒ Air quality permit (AQB review)

☐ Gas plants/pipelines available for sour gas

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: If there are existing pipeline for natural gas in the area then gas must be tied into system or if no gathering system nearby associated natural gas can be flared under Board Rule 36.22.1220.

Water Quality

(possible concerns)

Salt/oil based mud: Yes, to long string/intermediate casing hole will use oil based invert drilling fluids. Horizontal lateral to be drilled with brine water, from the 7" intermediate casing shoe to the 18,764' MD TD. Surface casing hole will be drilled with freshwater and freshwater mud system.

High water table: No, high water table anticipated at this location.

Surface drainage leads to live water: Yes, closest drainages are unnamed ephemeral tributary drainages, to Patch Coulee/Nicholson Coulee, adjacent to the north side of this location, about 1/8 of a mile to the east, and about 1/8 of a mile to the northwest from this location. Ephemeral drainages flow into stock ponds a short distance to the north from this location.

Water well contamination: No, closest water wells are about 7/8 of a mile to the north northeast, about 1 mile to the northeast, about 1 mile to the north and southwest from this location. These wells are domestic and stock water wells, from 20' to 370' in depth. Operator will drill a 1130'+ surface hole with freshwater and freshwater mud system and set 1130' of surface casing cemented to surface to protect groundwater.

Porous/permeable soils: No, sandy silty clay soils.

Class I stream drainage: No, Class I stream drainages.

Mitigation:

☒ Lined reserve pit

☒ Adequate surface casing

☐ Berms/dykes, re-routed drainage

☐ Closed mud system

☐ Off-site disposal of solids/liquids (in approved facility)

☐ Other: _____

Comments: 1130' surface casing well below freshwater zones in adjacent water wells, covering

the base of the Fox Hills aquifer. Adequate surface casing and operational BOP equipment will prevent problems.

Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: None, no stream crossings anticipated.

High erosion potential: Yes, moderate cut up to 18.0' of cut and small fill up to 9.5', required.

Loss of soil productivity: None, location to be restored after drilling well, if nonproductive. If productive unused portion of drillsite will be reclaimed by the operator.

Unusually large wellsite: No, very large well site 550'X375'. Wellsite is designed for a dual well pad for the Ruffatto 13X-24B and a future development well.

Damage to improvements: Slight, surface use appears to be cultivated fields.

Conflict with existing land use/values: Slight

Mitigation

☐ Avoid improvements (topographic tolerance)

☐ Exception location requested

☒ Stockpile topsoil

☐ Stream Crossing Permit (other agency review)

☒ Reclaim unused part of wellsite if productive

☐ Special construction methods to enhance reclamation

☒ Other: Requires DEQ General Permit for Storm Water Discharge Associated with

Construction Activity, under ARM 17.30.1102(28).

Comments: Access will be over existing county roads, #314, #143 and #313. About 543' of new access will be built from the existing county road, #313, into this location. Oil based drilling fluids will be recycled. Freshwater surface hole cuttings will be buried on site. Oil based drill cuttings will be buried in the lined reserve pit. Completion pit fluids will be hauled to a permitted saltwater disposal. Pit will be backfilled when dry. No concerns.

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Closest residences are about 1 mile to the north northeast and about 1.25 miles to the southwest from this location.

Possibility of H2S: Slight chance of H2S from Mississippian Formations.

Size of rig/length of drilling time: Triple drilling rig 25 to 35 days drilling time.

Mitigation:

☒ Proper BOP equipment

☐ Topographic sound barriers

☐ H2S contingency and/or evacuation plan

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: Adequate surface casing, 1130', cemented to surface with working BOP stack should mitigate any problems. Noise should not be a problems, sufficient distance from residence to rig should mitigate this.

Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified.

Proximity to recreation sites: None identified.

Creation of new access to wildlife habitat: No

Conflict with game range/refuge management: No

Threatened or endangered Species: Threatened or endangered species listed in Richland county by USFW

Service are the Pallid Sturgeon, Piping Plover, Interior Lease Tern and Whooping Crane. Candidate species are the Greater Sage-Grouse and the Sprague's Pipit. NH tracker website lists zero (0) species of concern in this Township and Range.

Mitigation:

- ☐ Avoidance (topographic tolerance/exception)
- ☐ Other agency review (DFWP, federal agencies, DSL)
- ☐ Screening/fencing of pits, drillsite
- ☐ Other: _____

Comments: Surface location is on private cultivated surface lands. There maybe species of concern that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to what he would like done, if a species of concern is discovered at this location. The Board of Oil & Gas has no jurisdiction over private surface lands.

Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites: None identified._____

Mitigation

- ☐ avoidance (topographic tolerance, location exception)
- ☐ other agency review (SHPO, DSL, federal agencies)
- ☐ Other: _____

Comments: Surface location is on private cultivated surface lands. There maybe possible historical/cultural/paleontological sites that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to his desires to preserve these sites or not, if they are found during construction of the wellsite. The Board of Oil & Gas has no jurisdiction over private surface lands.

Social/Economic

(possible concerns)

- ☐ Substantial effect on tax base
- ☐ Create demand for new governmental services
- ☐ Population increase or relocation

Comments: Wildcat Bakken Formation horizontal well. No concerns._____

Remarks or Special Concerns for this site

Wildcat Bakken Formation horizontal well. A single lateral horizontal Bakken Formation well to be drilled to this depth: 18,764' MD/8,930' TVD.

Summary: Evaluation of Impacts and Cumulative effects

No long term impact expected. Some short term impacts will occur.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/ Steven Sasaki
(title:) Chief Field Inspector

Date: March 30, 2012

Other Persons Contacted:

(Name and Agency)

Montana Bureau of Mines and Geology, Groundwater Information Center
website.

(subject discussed)

Water wells in Richland County

(date)

March 30, 2012

US Fish and Wildlife, Region 6 website

(Name and Agency)

ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA
COUNTIES, Richland County

(subject discussed)

March 30, 2012

(date)

Montana Natural Heritage Program Website

(Name and Agency)

Heritage State Rank= S1, S2, S3 in T26N R52E

(subject discussed)

March 30, 2012

(date)

If location was inspected before permit approval:

Inspection date: _____

Inspector: _____

Others present during inspection: _____